

slopes. Grading could create unstable cut-and-fill slopes, especially on steep slopes and areas with weak rock materials. Most grading would be required for construction of suitable footings for the transmission structures. Some grading would be needed for the temporary spur roads, widening existing access roads, and construction pads for structure sites on steep slopes to provide safe, level surfaces for excavation equipment, cranes, bucket trucks, and structure assembly. Hazards from unstable slopes and seismic hazards could affect roads. Debris clearing and road repair would be required as a normal response to such an event.

The Proposed Action would not result in significant impacts because EPMS described above would be enforced during construction and maintenance of the transmission line. Western would follow its erosion control and revegetation procedures to minimize potential erosion. EPMS that control erosion would also minimize erosion and sedimentation impacts to downstream resources. EPMS would also minimize impacts on soil compaction that could potentially affect the time required for successful revegetative growth or current use such as agricultural.

Even with the application of EPMS, soil erosion on construction sites cannot be eliminated, but it can be reduced to rates similar to pasture lands (or about 1.5 tons per acre per year). Therefore, soil impacts are considered insignificant.

4.13.2.4 IMPACTS FROM ALTERNATIVE 1—RECONDUCTORING O'BANION SUBSTATION TO TRACY SUBSTATION

Alternative 1 would reconductor 99.2 miles on existing ROW from O'Banion Substation to Tracy Substation (Segments A, B, C, D and E). This reconductor alternative would require 199 new structures. Alternative 1 would involve fewer new structures than the Proposed Action and would have less environmental impact. Alternative 1 would also not impact any additional acreage. It would be constructed entirely on existing ROW using existing access roads.

4.13.2.5 IMPACTS FROM ALTERNATIVE 2—NEW TRANSMISSION O'BANION SUBSTATION TO ELVERTA SUBSTATION AND REALIGNMENTS

Alternative 2 would be identical to the Proposed Action from O'Banion Substation to Elverta Substation, but would not entail any work south of Elverta. This alternative would consist of 27.4 miles of new construction on new ROW (Segments A₁ and G) and 4.2 miles of new construction on existing ROW (Segment B). 3.6 miles of existing line with encroachments would be abandoned (Segments F and H). Alternative 2 would require 167 new

structures, while 17 existing structures would be abandoned in place. Alternative 2 would temporarily disturb 515 acres, and permanently impact 66 acres.

Alternative 2 would have the same impact on soil as the Proposed Action north of Elverta Substation.

4.13.2.6 IMPACTS FROM ALTERNATIVE 3—NEW TRANSMISSION ELK GROVE SUBSTATION TO TRACY SUBSTATION

Alternative 3 consists of 46.2 miles of new construction on new ROW between Elk Grove Substation and Tracy Substation (Segment E₁). This alternative would require 225 new structures and 47 miles of new access roads. Alternative 3 would disturb 855 acres, with 108 acres disturbed for the long term.

Although the impacts of Alternative 3 would be confined to between Elk Grove Substation and Tracy Substation, it would be new construction on new ROW. Therefore, Alternative 3 impacts more acreage and requires more miles of access roads than any other alternative. The potential impacts to soil would be the highest for this alternative. Even so, no significant impacts have been identified and impacts to soil are considered insignificant.

4.13.2.7 IMPACTS FROM THE NO ACTION ALTERNATIVE

Under the No Action Alternative, the existing 230-kV transmission system between O'Banion Substation and Tracy Substation would continue to be operated and maintained. The line would be periodically accessed for routine maintenance or emergency repairs along the existing ROW and access roads. Vehicles could cause rutting on dirt access roads in wet conditions. Otherwise, this action would have negligible impact to soil.

4.14 VISUAL RESOURCES

4.14.1 AFFECTED ENVIRONMENT

The objectives of the visual resource analysis were to identify and describe visual resources, including visual quality and sensitivity, that could be affected by construction, operation, and maintenance of the Proposed Action or alternatives. Visual quality is the degree of contrast and variety within a landscape. Pleasant landscapes generally have high visual quality. Landscapes of high visual quality may contain distinctive landforms, vegetation patterns, and/or water forms. Visual sensitivity is the concern by viewers toward change to visual quality. Visual sensitivity is higher in natural or unmodified landscapes. The purpose of the analysis was to identify potential obstructions or modifications of present views in the landscape.

4.14.1.1 RESOURCE STUDY AREA

The visual resources study area consists of viewsheds where any of the Proposed Action or alternatives would be seen from sensitive viewing locations such as travel routes, residences, and recreation areas.

4.14.1.2 ISSUES OF ENVIRONMENTAL CONCERN

Issues raised by the public and agencies include effects on landscapes of high visual quality, altering the existing landscape, and consistency with the goals and objectives of the local and county general plans.

4.14.1.3 CHARACTERIZATION

The Proposed Action and alternatives would be located in the Central Valley of California. This area consists of a central alluvial plain drained by the Sacramento and San Joaquin rivers. This portion of the Central Valley contains two basins, the Sutter Basin and the American Basin. These basins are flat agricultural land of average visual quality. No distinctive landforms, waterforms, or vegetative patterns are present. The landscape has been modified by agricultural practices. Transmission lines criss-cross many portions of the study area.

Around the O'Banion Substation, visual quality is average with no distinctive landscape features. The agricultural landscape has been modified by rural residential uses. For this area, as well as many other portions of the study area, there are transmission lines along the landscape horizon. In some locations, particularly in close visual proximity, these lines dominate views and attract viewer attention.

Agricultural uses along most of Segments A and A₁ have created a patchwork landscape. Segments A and A₁ cross the Feather River (MP 11.5). The river is a distinctive water form feature resulting in an area of high visual quality. The visual sensitivity along Segment A and A₁ is moderate resulting from landscape modifications including other transmission lines.

The visual setting for Segments B, F, G, and H is agriculture and rural residences. Most of the visual sensitivity along these segments is moderate from landscape modifications. The visual quality of the area ranges from moderate to low because of the flat landscape, common vegetation patterns, and landscape modifications. No distinctive landscape features are present. Several other transmission lines reduce the visual quality, particularly near the Elverta Substation, where the visual quality is low.

Segment C and the northern portion of Segment D cross through urban landscapes of Sacramento. Visual quality is average to low from extensively modified landscapes. These segments cross a network of roads and highways.

The freeways are heavily traveled commuter routes and, for the most part, are not scenic or used for pleasure driving. However, the freeways are protected by scenic corridors. The visual sensitivity from the freeways in the Sacramento metropolitan area is generally low to moderate.

Along Segment C (MP 7.6 to 11.1) and Segment D (MP 0.0 to 1.0), the route is within view of the American River Parkway. Although other transmission lines are visible within the Parkway, its water feature, vegetation patterns, and topographic formations provide average to high visual quality. The American River is protected in Sacramento County by a scenic corridor (Sacramento County 1997). The visual sensitivity is moderate to high. Moving south, Segment D crosses a disturbed landscape of low visual quality with gravel quarries, landfill (MP 4.2 through 5.5), and Hedge Substation (MP 6.9). As Segment D approaches the Elk Grove Substation, the landscape is a mix of rural and pockets of industrial sites that have a moderate to low visual sensitivity. New residential growth in the Elk Grove area Segment D (MP 6.0 to 12.0) has a low visual sensitivity.

The visual setting for Segments E and E₁ at Elk Grove Substation is semi-industrial. There are several existing transmission lines and communication towers in the area. The visual quality is low to average with no distinctive landforms or vegetative patterns. At MP 3.3, the segments would cross the Cosumnes River and Cosumnes River Preserve (MP 3.0 through 3.5) where water features provide average to high visual quality.

Most of Segments E and E₁ are in predominately flat agricultural land with average visual quality. The segments would cross Interstate 5 at MP 18.9. The line would parallel Interstate 5 to the west for about 6 miles, where visual sensitivity would be moderate. The proposed segments would cross the San Joaquin River and the Stockton Deep Water Channel (MP 29.1). Visual quality of this industrial area is low to average. The water feature has been greatly modified by channelizing the waterway. For about 10 miles, Segments E and E₁ would cross several waterways, including the Mokelumne Aqueduct (MP 30.3) and Middle River (MP 31.4), where visual quality is average with no distinctive landscape features to the mostly modified waterways. The segments would traverse southwest through the Union Island area (MP 37.5 through 43.4). The agricultural area is dissected with a series of sloughs and drawings typical of the delta region. The visual quality is average with no distinctive landscape features. Visual sensitivity along these portions of Segments E and E₁ is moderate to low.

Segments E and E₁ would pass by the eastern side of the Clifton Court Forebay (MP 43.7). The viewshed contains a network of transmission lines and telephone lines and

communication towers, with transmission lines dominating the visual setting. Around Tracy Substation, the visual setting is an expansive flat valley floor contained by rolling hills rising to ridgelines. A number of transmission lines feed in and out of the substation, which draws visual attention. Although the landscape contains varied topography, modifications from structures have resulted in an average visual quality. Visual sensitivity would be moderate.

Results of the visual analysis identified several river locations of high visual quality. These areas include the Feather River, American River, and Cosumnes River. Most segments parallel existing transmission lines, which in certain visual settings, dominate the landscape.

4.14.2 ENVIRONMENTAL CONSEQUENCES

The Proposed Action and alternatives can create visual impacts as a result of construction of new transmission lines. Impacts to visual resources would be direct and long term, lasting for the life of the Proposed Action and alternatives.

4.14.2.1 STANDARDS OF SIGNIFICANCE

The Proposed Action and alternatives would cause significant and adverse impacts if they substantially change

- The quality of any scenic resource,
- Any scenic resource in the study area known to have rare or unique value,
- The view from, or the visual setting of, any designated or planned park, recreation, wilderness, natural areas, or other visually sensitive land use,
- The view from, or the visual setting of, any designated scenic travel route,
- The view from, or the visual recreation, education, preservation, or scientific facility, use area, activity, and view point or vista, or
- A view by introducing a negative visual element (such as creating light or reflecting glare).

Western addressed two issues in determining impact significance: 1) the type and extent of actual physical contrast, and 2) the visibility of a given corridor segment or transmission structures. The adverse affects to visual quality depend upon the amount of visual contrast between the proposed facilities and the existing landscape. The assessment of visual resource impacts has focused on incremental impacts where the Proposed Action and alternatives is adjacent to existing transmission line corridors.

4.14.2.2 ENVIRONMENTAL PROTECTION MEASURES

One EPM was identified for visual resources from Table 3-4 that transmission structures would be constructed of galvanized material.

4.14.2.3 IMPACTS FROM PROPOSED ACTION—NEW TRANSMISSION O'BANION SUBSTATION TO ELVERTA SUBSTATION; REALIGNMENTS; RECONDUCTORING ELVERTA SUBSTATION TO TRACY SUBSTATION

New construction along Segments A₁, B, and a portion of G would result in low incremental visual impacts. The segments would be adjacent to existing transmission lines that dominate the landscape, particularly along Segment B and a portion of Segment G. Except for the crossing of the Feather River the visual quality is average. Although the visual quality of the river is high, other transmission lines cross the river at the same location as proposed for Segment A₁. This would result in a moderate incremental impact.

For the realignment of the Cottonwood–Roseville line, new transmission line would be constructed along Segment G. No transmission lines currently exist along Segment G from Keys Road east to the intersection of the PG&E Rio Oso–Brighton transmission line (MP 1.7). Residents near Keys Road who now have distant views of transmission lines would view the proposed line from a closer proximity. The new line would result in 1.7 miles of moderate visual impacts to Segment G (MP 0.0 to 1.7). Segments of F and H would be abandoned in place, resulting in no visual change. The reconductoring portion (Segments C, D, and E) of the Proposed Action would cause no apparent visual change and would not be noticeable to the typical viewer.

4.14.2.4 IMPACTS FROM ALTERNATIVE 1—RECONDUCTORING O'BANION SUBSTATION TO TRACY SUBSTATION

Alternative 1 would have nearly the same type of reconductoring issues from O'Banion Substation to Tracy Substation as the Proposed Action reconductoring from Elverta Substation to Tracy Substation. The difference between Alternative 1 and the Proposed Action would be that line Segments A and B between O'Banion Substation and Elverta Substation would be reconducted. Reconductoring of this line would cause no apparent visual changes.

4.14.2.5 IMPACTS FROM ALTERNATIVE 2—NEW TRANSMISSION O'BANION SUBSTATION TO ELVERTA SUBSTATION AND REALIGNMENTS

Alternative 2 would have the same impacts described for the new construction, realignment, and abandonment portions from O'Banion Substation to Elverta Substation of the Proposed Action.

4.14.2.6 IMPACTS FROM ALTERNATIVE 3—NEW TRANSMISSION ELK GROVE SUBSTATION TO TRACY SUBSTATION

Alternative 3 would be adjacent to existing transmission lines for its entire length from Elverta Substation to Tracy Substation. These and other existing lines in the area dominate the landscape. This alternative would traverse mostly agricultural fields, where visual quality is average and visual sensitivity is low to moderate. However, at one point, Segment E₁ crosses the Cosumnes River Preserve (MP 3.0 to 3.5) where at the river, the incremental visual impact would be moderate. The overall incremental visual impacts of Alternative 3 line would be low.

4.14.2.7 IMPACTS FROM THE NO ACTION ALTERNATIVE

No action would result in no new impacts to visual resources. During periodic maintenance and operation of Western facilities and ROWs, workers and their equipment could draw some visual attention for a short time. However, these impacts would not be significant. Mitigating measures would not be required because there would be no new impact on visual resources. Residual impacts would be negligible.

4.15 WATER RESOURCES

4.15.1 AFFECTED ENVIRONMENT

Water resources and hydrology include surface and groundwater resources in the study area. These resources provide drinking water and agricultural irrigation water, as well as habitat for fish and wildlife species. This section characterizes the water and hydrological resources in the study area and assesses the potential impacts of the Proposed Action and alternatives.

Activities affecting water resources would fall under the CWA (33 U.S.C. § 1251-1387), Section 404 (31 U.S.C. § 1344) permitting requirements, Section 10 *Rivers and Harbors Act* (33 U.S.C. § 403) permitting requirements, and 401 Certification (33 U.S.C. § 1341). Jurisdictional entities include the Central Region of the DWR and the Sacramento District of the USACE.

4.15.1.1 RESOURCE STUDY AREA

Constructing and maintaining the transmission line and associated access roads could impact water resources. Potential impacts would be limited to the ROWs for the transmission line, pulling and tensioning sites, any construction office or laydown areas, and access roads. Potential impacts could occur on existing access roads as well as new roads. While there could be some limited potential impacts beyond the ROWs boundaries (for example, in the case of a spill into a creek or ditch), it is impossible to define the boundaries for such potentialities. Therefore, this analysis considers the area within the ROWs to be the affected environment, as physical impacts to water resources should be limited to those areas.

4.15.1.2 ISSUES OF ENVIRONMENTAL CONCERN

Issues of environmental concern for water resources include erosion, compaction, sedimentation from construction disturbance, blocked drainage, introducing construction debris or other fill into surface waters, spills of petrochemicals or other contaminants that could reach surface water or groundwater, impacts from excavating structure foundations, damage to irrigation improvements, and depleted water resources. These issues are somewhat heightened for the Proposed Action and alternatives due to the large number of ditches, canals, rivers, and creeks, and the proximity of the water table to the land surface.

4.15.1.3 CHARACTERIZATION

The Proposed Action and alternatives are in the central portion of California's Central Valley. To the north is the Sacramento Valley, and to the south the San Joaquin Valley. Surface water drains toward the study area, from which the region drains generally south-southwest, converging into the San Francisco Bay Delta and ultimately the Pacific Ocean by way of San Francisco Bay. The DWR has established subbasins within the Central Valley; the Proposed Action and alternatives are in portions of the Southern Sacramento Drainage Basin, the eastern portion of the Delta Drainage Basin, and the northern portion of the San Joaquin Drainage Basin.

The northern portion of the study area is primarily drained by the Sacramento River and its larger tributaries, including the American and Feather rivers. The southern portion is drained by the San Joaquin River and its tributaries, including the Cosumnes, Middle, and Old rivers. The San Joaquin River in this area is also the eastern part of the Stockton Deep Water Channel.

Irrigated agriculture on the flat valley floor in the study area has led surface water resources to be heavily devel-